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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/758,197

01/16/2004

Fakhralden A. Huliehel

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7590

06/30/2005

DR. MARK FRIEDMAN LTD.

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Discovery Dispatch

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EXAMINER

CHAN, EMILY Y

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/758,197

Applicant(s)

HULIEHEL, FAKHRALDEN A.

Examiner

Emily Y. Chan

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2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-13 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1, Claims 1-4, 6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider US patent No. 6,201,829 in view of Pearce US Patent No. 5,515,405.

With respect to claims 1-2 and 6, Schneider ('829) expressly discloses a method and a system (see Figs 4-5) for testing a semiconductor-device including a communication transmitter (38) and a communications receiver (44) as claimed, comprising:

(a) an output port (output buffer 54) of the communications transmitter (38) for transmitting a data signal (data output);

(b) test equipment (32, 62) (see Col. 7, lines 25-27) generating a perturbation signal (a pseudo-random sequence signal).

Schneider ('829) fails to disclose (c) a combiner of said data signal and said perturbation signal thereby creating perturbed data signal to an input port (55) of the communications receiver (44).

Pearce ('405) discloses a data communication system (see Fig. 2 and claim 5) and exclusively teaches a combiner (adder 12) for combining a data signal from a

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equipment (13,17) to create a perturbed data signal to an input port of an output phase locked loop (PLL 14) of a communications receiver.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the combiner of Pearce ('405) into Schneider ('829)'s system so that Schneider ('829)'s system comprises the claimed combiner because Pearce ('405) discloses that his system allows automatic monitoring of the data communication system with monitoring means for controlling the clock phase (jitter) modulating of the jitter generating device as disclosed by Pearce ('405) (see Col. 2, lines 38-39).

With respect to claims 3-4, Pearce ('405)'s combined signal includes jitter and a reduced voltage swing (see Fig. 2 "jitter introduced" signal).

With respect to claim 9, Schneider ('829) discloses

(d) a data input port (34) of the communication transmitter (38) receiving parallel data (10 bit wide parallel data) and clock (REFCLK signal) from the test equipment (32, 62) wherein the data input port of the communication transmitter (38) is operationally connected to the output port of the communication transmitter; and

(e) a data output port (36) of the communications receiver (44) transmitting parallel data and clock to said test equipment (32,62) wherein said data output port of the communications receiver is operationally connected to said input port of the communications receiver.

With respect to claim 10, Schneider ('829) discloses that his data input port of the communications transmitter (38) and the output port of the communications transmitter (38) are operationally connected via a serializer (52).

With respect to claim 11, Schneider ('829) discloses that his data input port of the communications receiver and said data output port of the communications receiver are operationally connected via a deserializer (58).

2. Claims 5 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider ('829) in view of Pearce ('405) as applied to claim 1 and 6 above, and further in view of Olson et al US Patent No. 6,816,987.

With respect to claim 5, Schneider ('829) in view of Pearce ('405) discloses the steps of (d) and (e) (see rejection for claims 9 and 10 above) but fails to disclose the step of (f).

Olson et al ('987) disclose a method and a system (see Figs. 1 and 4) for testing data communication system including a communications transmitter (110) and communications receiver (130). Olson et al ('987) exclusively teach an active termination circuit 190, a link detector circuit (195/197) and a bit-error test circuit (158) for comparing said transmitted parallel data and clock with said received parallel data and clock to calculate a bit error rate of the device under test (see Figs 9-10, comparators 902, 903, 1002 and 1003; and Col. 14, line 53 "calculating a data error rate of the received test data").

With respect to claims 7-8, Schneider ('829) in view of Pearce ('405) do not disclose a resistive network and an impedance matching network.

Olson et al ('987) further disclose an impedance matching network (see Fig. 8) consisting a resistive network (see Col. 10, lines 5-7).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to be motivated to incorporate Olson et al ('987)'s bit-error rate test circuit and the impedance matching network into Schneider ('829)'s and Pearce ('405) 's system to produce the claimed invention because Olson et al ('987) disclose that their system has the advantage of allowing the data communication circuit to be thoroughly tested in a relatively short amount of time (see Col. 2, lines 12-13).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 12-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Olson et al ('987).

Olson et al ('987) disclose a device (see Figs 4,9 and 14) for testing a transceiver (100) that includes a transmitter (110) and a receiver (130). Comprising:

(a) a mechanism (170, 112, 115) for introducing parallel data (TX-OUT) and clock to the transmitter (110), so that the transmitter transforms said parallel data and said clock into a serial signal (see Col. 5, lines 23-24);

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(b) a mechanism ( see Fig. 4, active termination circuit 190) for perturbing said serial signal yielding a perturbed signal (see Col. 10, lines 3-4 "jitter variations in the signal"); and

(c) a mechanism (see fig. 4, receiver link detector 195) for introducing said perturbed signal to the receiver (130)(see Col.13, lines 18-19 and Col. 14, lines 58-59 "receiving the data error rate with a data receiver");

(d) a mechanism (see Fig. 4, 132, 135) for transforming said perturbed signal to perturbed parallel data and clock signals (see Col. 5, lines 36-37);

(e) a mechanism (158, 160) for comparing said parallel- data and clock to the Transmitter and said perturbed parallel data and clock signals thereby testing the transceiver (see Col. 5, lines 64-66 "The BERT circuit 158 is used to determine the bit error rate of the transmitter 110 and/or receive 130").

Therefore, Olson et al ('987) anticipate the claimed invention.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ducaroir et al US Patent No. 5,956,370 disclose a wrap-back test system comprising a communication transmitter 5, communication receiver 8, serializer 11 and deserializer 12.

Mak et al US patent No. 6,885,209 disclose a device for self testing of a transmitter and receiver pair provided on-chip.

### ***Conclusion***


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y. Chan whose telephone number is 571-272-1956. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EC  
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PRIMARY EXAMINER  
A.U. 2829  
06/27/05